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EXAMINER

UNELUS, ERNEST

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action SummaryApplication No. **10/811,162**Applicant(s) **SANDULESCU ET AL.**

Examiner

Ernest Unelus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
10/25/2006

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/15/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

RESPONSE TO AMENDMENT

I. OBJECTIONS TO THE DRAWINGS

1. Applicant attempts to overcome the previous drawing objections by removing “video interface”. However, “KVM interface” is still recited, which necessitates a video interface. Therefore, the objection still stands.

II. CLAIMS REJECTIONS BASED ON PRIOR ART

2. Applicant's arguments filed 09/06/2006 have been fully considered but they are not persuasive.
3. The applicant amended the claims of the present applicant to include at least one non-keyboard and non-mouse USB peripheral interface.

King discloses a non-keyboard or a non-mouse USB peripheral interface: a video USB peripheral interface (USB port 213), as King discloses in paragraph 0023, is a non-keyboard or a non-mouse USB peripheral interface. In paragraph 0023, King also discloses “Because the USB protocol allows multiple devices to be attached to a single USB port by using a commercially available device known as a USB hub, multiple PS/2 devices and USB devices may be attached to a KVM unit 12”.

III. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

4. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R. 1.63.

IV. INFORMATION CONCERNING DRAWINGS

Drawings

5. The applicant's drawings submitted are not acceptable for examination purposes.

V. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

6. As required by M.P.E.P. 609(C), the applicant's submissions of the Information Disclosure Statement dated September 15, 2006 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by M.P.E.P 609 C(2), a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

VI. OBJECTIONS TO THE DRAWINGS

7. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. **The host video and the video interface are not shown in the drawing.**

Applicant attempts to overcome the previous drawing objections by removing “video interface”. However, “KVM interface” is still recited, which necessitates a video interface. Therefore, the objection still stands.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show a video interface as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The examiner suggests amending the drawings to include a video interface that is supported by the specification.

VII. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-7 and 10-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahern et al. (EP 1 075 111) in view of King et al. (US 2003/0131127).

10. As per **claims 1 and 10**, Ahern discloses a KVM and peripheral device switch (see **paragraph 0006 and 007**) comprising: a plurality of sets of KVM interfaces (“**user interface modules**” in **fig. 1**), each set of KVM interfaces having a keyboard interface, a mouse interface, and a video interface (see **paragraph 006**); a plurality of sets of host interfaces (“**computer interface modules**” in **fig. 1**), each set of host interfaces having a host keyboard and mouse interface and a host video interface (see **paragraph 006**); a master controller configured to switch at least one of the sets of KVM interfaces and at least one of the USB peripheral interfaces among the host interfaces;” (*Page 5 of Applicant’s specification identifies the master controller as “one or combinations of the following: programmable*

circuit, integrated circuit, memory and i/o circuits, an application specific integrated circuit, microcontroller, complex programmable logic device, field programmable gate arrays, other programmable circuits, or the like". With respect to this limitation, see paragraph 0007. The KVM and peripheral device switch is considered to comprise only one switch module (41) to which the user interfaces are connected, therefore this switch module is the master controller, see figures 1 and 2); wherein a keyboard and mouse host is emulated to the keyboard interface and the mouse interface (see paragraphs 0030 and 0034); and wherein a keyboard and a mouse is emulated to the host interface (see paragraph 0030). Ahern fail to disclose the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces

King discloses the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces (see fig. 2 of King and paragraph 0023).

Ahern et al. (EP 1 075 111) and King et al. (US 2003/0131127) are analogous art because they are from the same field of endeavor of how to increase the connectivity of the KVM switch.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the KVM switch as taught by Ahern and to include also at least one USB peripheral interface in the KVM switch and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces as taught by King.

The motivation for doing so would have been because King teaches that ["The

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OCC keyboard 32 and mouse 34 devices may be PS/2 devices or USB devices or a combination of both. For example, it is possible to simultaneously attach both a PS/2 keyboard and a USB mouse. Because the USB protocol allows multiple devices to be attached to a single USB port by using a commercially available device known as a USB hub, multiple PS/2 devices and USB devices may be attached to a KVM unit 12” (paragraph 0023)].

Therefore, it would have been obvious to combine King et al. (US 2003/0131127) with Ahern et al. (EP 1 075 111) for the benefit of creating a KVM switch to obtain the invention as specified in claim 1.

11. As per claim 2, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 1 (see rejection to claim 1 above): “at least one user controller communicably coupled to the master controller and at least one of the keyboard and mouse interfaces, the user controller being configured to emulate a keyboard and mouse host; and at least one computer controller communicably coupled to the master controller and at least one of the sets of host keyboard and mouse interfaces, the computer controller being configured to emulate a keyboard and a mouse” [(with respect to this limitation, Ahern discloses the user interface module as the user controller communicably coupled to the master controller (41) and at least one of the keyboard and mouse interfaces (“user interface modules” in fig. 1). Ahern also discloses where the user controller being configured to emulate a keyboard and mouse host (see paragraph 0030). (Ahern discloses the computer interface module (51) as the computer controller communicably coupled to the master controller (41) and at least

one of the sets of host keyboard and mouse interfaces (“computer interface modules” in fig.

1). Ahern also discloses where the computer controller being configured to emulate a keyboard and a mouse (see paragraph 0030)]

12. As per claim 3, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 2 (see rejection to claim 2 above): “wherein the at least one user controller and the at least one computer controller are the same controller” [(with respect to this limitation, *Page 7 and 8 of Applicant’s specification implied the at least one user controller and the at least one computer controller to be the same controller if they are control by a master controller. With respect to this understanding, Ahern’s master controller clearly meets this limitation (see paragraph 0007)*].

13. As per claim 4, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 2 (see rejection to claim 2 above): “wherein the at least one user controller and the at least one computer controller are communicably coupled” [with respect to this limitation, Ahern discloses the user interface module as the user controller and the computer interface module as the computer controller, which are communicably coupled (see fig. 1)].

14. As per claim 5, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 2 (see rejection to claim 2 above): “ wherein the master controller is configured to select which of the at least one user controllers and which of the at least one computer controllers will communicate with each other [with respect to this limitation, Ahern discloses emulation, which is perform by the master controller (switch module 41), between

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the at least one user controllers (user interface module) and with the at least one computer controllers (computer interface module) will communicate with each other (see paragraph 0030)].

15. As per **claims 6 and 17**, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 5 (see rejection to claim 5 above): “wherein the master controller is configured to direct the selected user controller and the selected computer controller to communicate with each other” **[with respect to this limitation, Ahern discloses emulation, which is perform by the master controller (switch module 41), between the selected user controllers (user interface module) with the selected computer controllers (computer interface module) to communicate with each other (see paragraph 0030)].**

16. As per **claim 7**, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 5 (see rejection to claim 5 above): “wherein the master controller is configured to select user controllers based on received user identification information and computer controllers based on computer identification information”**[with respect to this limitation, (see paragraphs 0034 and 0047)].**

17. As per **claim 11**, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 10 (see rejection to claim 10 above): “wherein the switch is a crosspoint matrix switch” **[with respect to this limitation, (see fig. 1, which is a crosspoint matrix switch, as known in the art)]**

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18. As per claims 12 and 18, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 1 (see rejection to claim 1 above): “wherein the KVM and peripheral switch is compatible with both USB 1.x and USB 2.x.” [with respect to this limitation, King discloses, in paragraph 0023, “Because the USB protocol allows multiple devices to be attached to a single USB port by using a commercially available device known as a USB hub”. In other word, With the USB hub, someone is able to use a USB 1.x or a USB 2.x. for the motivation discloses above in claim 1]

19. As per claims 13 and 19, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 1 (see rejection to claim 1 above): “wherein the KVM and peripheral device switch is capable of concurrently and independently switching keyboard and mouse interfaces between keyboard and mouse host interfaces and peripheral interfaces between host peripheral interfaces [with respect to this limitation, in paragraphs 0022 and 0045, Ahern discloses a concurrently and an independently step of switching keyboard and mouse interfaces between keyboard and mouse host interfaces and peripheral interfaces between host peripheral interfaces]

20. As per claims 14 and 20, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 1 (see rejection to claim 1 above): “wherein the keyboard interface and mouse interface are each selected from the group consisting of: SUN, PS/2, MAC, USB, Universal, and combinations thereof” [with respect to this limitation, King discloses a PS/2, (see paragraph 0023)]

21. As per **claim 15**, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 1 (see rejection to claim 1 above): “further comprising a user interface selected from the group consisting of: buttons, RS232 commands, Ethernet, remote toggle switch, on-screen display, and combinations thereof” [with respect to this limitation, King discloses a PS/2, (see paragraph 0023)].

22. As per **claim 16**, Ahern discloses a KVM and peripheral device switch (see paragraph 0006 and 007) comprising: a plurality of sets of KVM interfaces (“user interface modules” in fig. 1), each set of KVM interfaces having a keyboard interface, a mouse interface, and a video interface (see paragraph 006); at least one user controller (user interface module in fig. 1) communicably coupled to at least one of the sets of KVM interfaces (“user interface modules” in fig. 1), the user controller being configured to emulate a keyboard and mouse host (see paragraph 0030); a plurality of sets of host interfaces (“computer interface modules” in fig. 1), each set of host interfaces having a host keyboard and mouse interface and a host video interface (see paragraph 006); at least one computer controller (computer interface module in fig. 1) communicably coupled to at least one of the sets of host interfaces (“computer interface modules” in fig. 1) (see fig. 1), the computer controller being configured to emulate a keyboard and a mouse (see paragraph 0030); and a peripheral switch (switching hub 40) communicably coupled to at least one of the peripheral interfaces (“user interface modules” in fig. 1) and to at least one of the host peripheral interfaces (“computer interface modules” in fig. 1; and configured to switch the peripheral interfaces between the host peripheral interfaces (see paragraph 0030); and a video switch communicably coupled to at least one video interface and

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to at least one host video interface and configured to switch the video interfaces between the host video interfaces (see **paragraph 0029 and 0030**); a master controller communicably coupled to the user controller, the computer controller (**computer interface module in fig. 1**), the peripheral switch (**switching hub 40**), and the video switch and configured to switch at least one of the sets of KVM interfaces and at least one of the peripheral interfaces between the host peripheral interfaces;" (*Page 5 of Applicant's specification identifies the master controller as "one or combinations of the following: programmable circuit, integrated circuit, memory and i/o circuits, an application specific integrated circuit, microcontroller, complex programmable logic device, field programmable gate arrays, other programmable circuits, or the like". With respect to this limitation, see paragraph 0007. The KVM and peripheral device switch is considered to comprise only one switch module (41) to which the user interfaces are connected, therefore this switch module is the master controller, see figures. 1 and 2 and paragraph 0030*); Ahern fail to disclose the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces

King discloses the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces (see **fig. 2 of King and paragraph 0023**).

Ahern et al. (EP 1 075 111) and King et al. (US 2003/0131127) are analogous art because they are from the same field of endeavor of how to increase the connectivity of the KVM switch.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the KVM switch as taught by Ahern and to include also at least one USB peripheral interface in the KVM switch and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces as taught by King.

The motivation for doing so would have been because King teaches that [**“The OCC keyboard 32 and mouse 34 devices may be PS/2 devices or USB devices or a combination of both. For example, it is possible to simultaneously attach both a PS/2 keyboard and a USB mouse. Because the USB protocol allows multiple devices to be attached to a single USB port by using a commercially available device known as a USB hub, multiple PS/2 devices and USB devices may be attached to a KVM unit 12” (paragraph 0023)]**.

Therefore, it would have been obvious to combine King et al. (US 2003/0131127) with Ahern et al. (EP 1 075 111) for the benefit of creating a KVM switch to obtain the invention as specified in claim 16

23. As per **claim 21**, Ahern discloses a KVM and peripheral device switch (see paragraph 0006 and 007) comprising: a plurality of sets of KVM interfaces (**“user interface modules” in fig. 1**), each set of KVM interfaces having a keyboard interface, a mouse interface, and a video interface (see paragraph 006); a plurality of sets of host interfaces (**“computer interface modules” in fig. 1**); emulating a keyboard and a mouse to each host interface (see paragraph 0030); emulating a host to each keyboard interface and mouse interface (see paragraph 0030); receiving a switching command at a controller (**the switch module**) (see paragraph 0030), the

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switching command containing identification information (see paragraph 0047); and using the identification information to connect at least one of the keyboard interfaces, at least one of the mouse interfaces, at least one of the video interfaces, and at least one of the peripheral interfaces to at least one of the host interfaces (see paragraphs 0034 and 47). Ahern fail to disclose the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces

King discloses the KVM and peripheral switch device comprises also at least one USB peripheral interface, and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces (see fig. 2 of King and paragraph 0023).

Ahern et al. (EP 1 075 111) and King et al. (US 2003/0131127) are analogous art because they are from the same field of endeavor of how to increase the connectivity of the KVM switch.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the KVM switch as taught by Ahern and to include also at least one USB peripheral interface in the KVM switch and the master controller is configured to switch also at least one of the USB peripheral among the host interfaces as taught by King.

The motivation for doing so would have been because King teaches that [**"The OCC keyboard 32 and mouse 34 devices may be PS/2 devices or USB devices or a combination of both. For example, it is possible to simultaneously attach both a PS/2 keyboard and a USB mouse. Because the USB protocol allows multiple devices to be attached to a single USB port by using a commercially available**

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device known as a USB hub, multiple PS/2 devices and USB devices may be attached to a KVM unit 12” (paragraph 0023)].

Therefore, it would have been obvious to combine King et al. (US 2003/0131127) with Ahern et al. (EP 1 075 111) for the benefit of creating a KVM switch to obtain the invention as specified in claim 21

24. As per **claim 22**, the combination of Ahern and King disclose the KVM and peripheral device switch of claim 21 (see rejection to claim 21 above): “further comprising: (a) determining whether the peripheral interface is to be switched concurrently with the keyboard interface and the mouse interface (); (b) concurrently switching the peripheral interface with the keyboard interface and mouse interface upon a positive determination in step (a) [**with respect to this limitation, in paragraph 0045, Ahern discloses a concurrent step of switching keyboard and mouse interfaces between keyboard and mouse host interfaces and peripheral interfaces between host peripheral interfaces, which is done by a logic device. It is well known in the art that a control logic device function base upon a determination, which in this case would be a positive determination**].

VIII. RELEVANT ART CITED BY THE EXAMINER

25. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant’s art and those arts considered reasonably pertinent to applicant’s disclosure. See **MPEP 707.05(c)**.

26. The following reference teaches of how to increase the connectivity of the KVM switch.

U.S. PATENT NUMBER

US 5,721,842

US 6,324,605

US 5,721,842

IX. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

27. The following is a summary of the treatment and status of all claims in the application as recommended by M.P.E.P. 707.07(i):

a(1) CLAIMS REJECTED IN THE APPLICATION

28. The instant application having Application No. 10/811,162 had a total of 22 claims pending in the application; After amendment, we now have a total of 20 of claims. There are now 3 independent claims and 17 dependent claims, all of which have received a final action on the merits. Claims 8 and 9 have been cancelled.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

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the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

b. DIRECTION OF FUTURE CORRESPONDENCES

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is (571) 272-8596. The examiner can normally be reached on Monday to Friday 9:00 AM to 5:00 PM.

IMPORTANT NOTE

30. If attempts to reach the above noted Examiner by telephone is unsuccessful, the Examiner's supervisor, Mr. Fritz M. Fleming, can be reached at the following telephone number: Area Code (571) 272-4145.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 17, 2006

Ernest Unelus
Examiner
Art Unit 2181

Fritz M. Fleming
FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
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